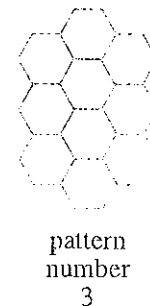
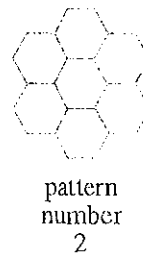
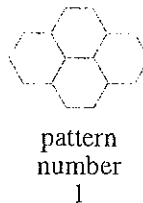


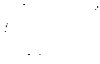


## Exercises

1. For the sequence,  
7, 11, 15, 19, ...
  - (a) calculate the *difference* between successive terms,
  - (b) determine the *formula* that generates the sequence.
  
2. Determine the *formula* for each of the following sequences:
  - (a) 6, 10, 14, 18, 22, ...
  - (b) 11, 13, 15, 17, 19, ...
  - (c) 9, 16, 23, 30, 37, ...
  - (d) 34, 56, 78, 100, 122, ...
  - (e) 22, 31, 40, 49, 58, ...
  
3. One number is missing from the following sequence:  
1, 6, 11,   , 21, 26, 31
  - (a) What is the missing number?
  - (b) Calculate the *difference* between successive terms.
  - (c) Determine the *formula* that generates the sequence.
  
4. Determine the *general formula* for each of the following sequences:
  - (a) 1, 4, 7, 10, 13, ...
  - (b) 2, 6, 10, 14, 18, ...
  - (c) 4, 13, 22, 31, 40, ...
  - (d) 5, 15, 25, 35, 45, ...
  - (e) 1, 20, 39, 58, 77, ...
  
5. For the sequence,  
18, 16, 14, 12, 10, ...
  - (a) calculate the *difference* between successive terms,
  - (b) determine the *formula* that generates the sequence.
  
6. Determine the *general formula* for each of the following sequences:
  - (a) 19, 16, 13, 10, 7, ...
  - (b) 100, 95, 92, 88, 84, ...
  - (c) 41, 34, 27, 20, 13, ...
  - (d) 56, 50, 34, 18, 2, ...
  - (e) 90, 81, 72, 63, 54, ...

7. For the sequence,  
 $-2, -4, -6, -8, -10, -12, \dots$   
 (a) calculate the *difference* between successive terms,  
 (b) determine the *formula* for the sequence.
8. Determine the *formula* that generates each of the following sequences:  
 (a)  $0, -5, -10, -15, -20, \dots$   
 (b)  $-18, -16, -14, -12, -10, \dots$   
 (c)  $-5, -8, -11, -14, -17, \dots$   
 (d)  $8, 1, -6, -13, -20, \dots$   
 (e)  $-7, -3, 1, 5, 9, \dots$
9. A sequence has first term 20 and the difference between the terms is always 31.  
 (a) Determine a *formula* to generate the terms of the sequence.  
 (b) Calculate the *first 5 terms* of the sequence.
10. The second and third terms of a sequence are 16 and 27. The difference between successive terms in the sequence is always constant.  
 (a) Determine the *general formula* for the sequence.  
 (b) Calculate the *first 5 terms* of the sequence.
11. This is a series of patterns with grey and white tiles.



The series of patterns continues by adding  each time.

- (a) Copy and complete this table:

pattern number	number of grey tiles	number of white tiles
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5

16